

Presentation Roadmap

Focus on 2 Case Studies

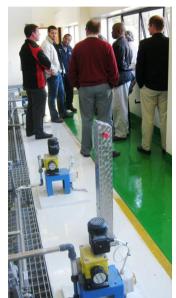


Audit of WSP implementation at 3 utilities in East Africa

→ Lessons learned?













SA Water Quality Initiatives

Municipal Water Quality
 Management (eWQMS) (2006)





- Incentive-based Regulation
 - Blue Drop & Green Drop Certification Programmes (2008)
- FIFA World Cup 2010
- SANS 241 (DWQ Standards)
 - 1984 1999 2001 2005 2011 2015
- WRC need to provide municipalities with WSP resources
 - Guidelines and spreadsheet/web tool





Water Safety Planning in SA

- Proof / Evidence / Show me!
- Management commitment!
- Preparation and planning –
 not last minute!
- BDC **1**st **Round** (2009): 402 systems assessed









Water Safety Planning in SA

- BDC 2nd Round (2010): 787 systems assessed
 - Introduced WSP as requirement
 - 154 assessed systems had WSPs (20%)
 - Some of the WSPs only had the risk assessment section completed, only for WTWs (i.e. WSP not fully implemented)









Water Safety Planning in SA

- BDC 3rd Round (2011): 914 systems assessed
- BDC 4th Round (2012): 931 systems assessed
 - 579 assessed systems had WSPs (62%)
 - 269 of these WSPs (46%) complying well with international standards



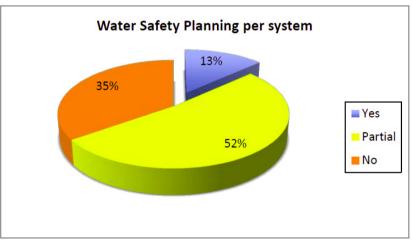


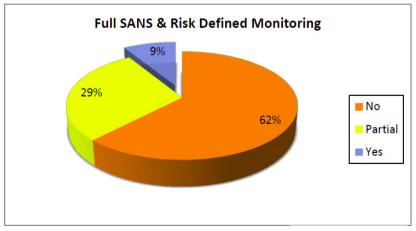




Water Safety Planning in SA: 2013

- BDC 5th Round (2013): 1009 systems assessed
 - Only 13% of systems have
 ACTIVE water safety
 planning
 - Only 9% of systems are informed by full SANS 241 analysis and a Risk
 Defined Monitoring programme

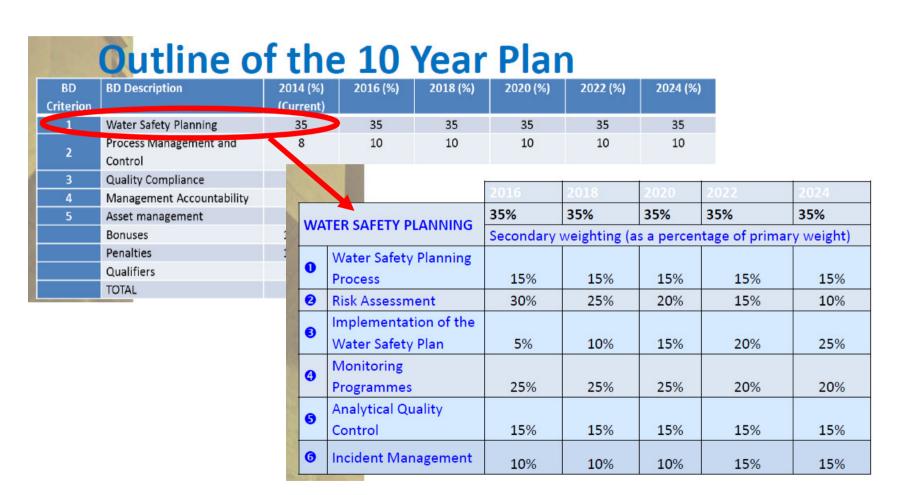








Blue Drop Certification Requirements







Initial SA Experience

- Some municipalities had policies/procedures, etc BUT not always up to-date or centrally located or nicely packaged
- See value of managing DWQ using WSP → improved understanding of their challenges
- Implementation of plans → insufficient numbers or skilled operational and maintenance staff
- BDC a high profile indicator of municipal performance → priority item/funding should be forthcoming
- WSP must be owned by municipality
- Need guidance to more easily complete a WSP, flag high risk issues, & tracking corrective actions



Do We Need Water Safety Planning?

"Its not new, we do this stuff, its just packaged better"

"I finally understand my system"

"I know where my risks are"

"It helps me get money to fix issues"

"I sleep better at night"







WSP Implementation Audits

- IWA and USEPA facilitated WSP WOP between 3 East African water utilities
 - December 2012 → July 2014
 - Develop and implement WSPs
- → Audit implementation activities of the 3 partners
 - May 2015
 - Use draft WHO WSP audit / assessment guidance note
- Consultative audit/coaching









Audit Components

- Water safety planning steps
- Site visit & inspection of water system
- WQ monitoring & management
- Management procedures
- Documentation & communication procedures
- Asset management
- Operations & maintenance
- Water services planning
- Service delivery & backlogs
- Customer care











Audit Components (cont.)

- Sanitation and wastewater treatment
- Water conservation & demand management
- Human resources
- Financial management
- Information Technology (IT)
- Waste management
- Energy management
- Safety and security
- Performance management
- Research and development
- Training and capacity building











Audit Methodology

- Enquire whether policies, protocols, structures, procedures, work instructions, etc. exist, and
- 2. Ask to **show evidence of implementation** thereof
 - E.g. Site visits, review of documentation
- → Compile brief audit report and management letters
 - Identify areas of need
 - Develop appropriate implementation improvement plans

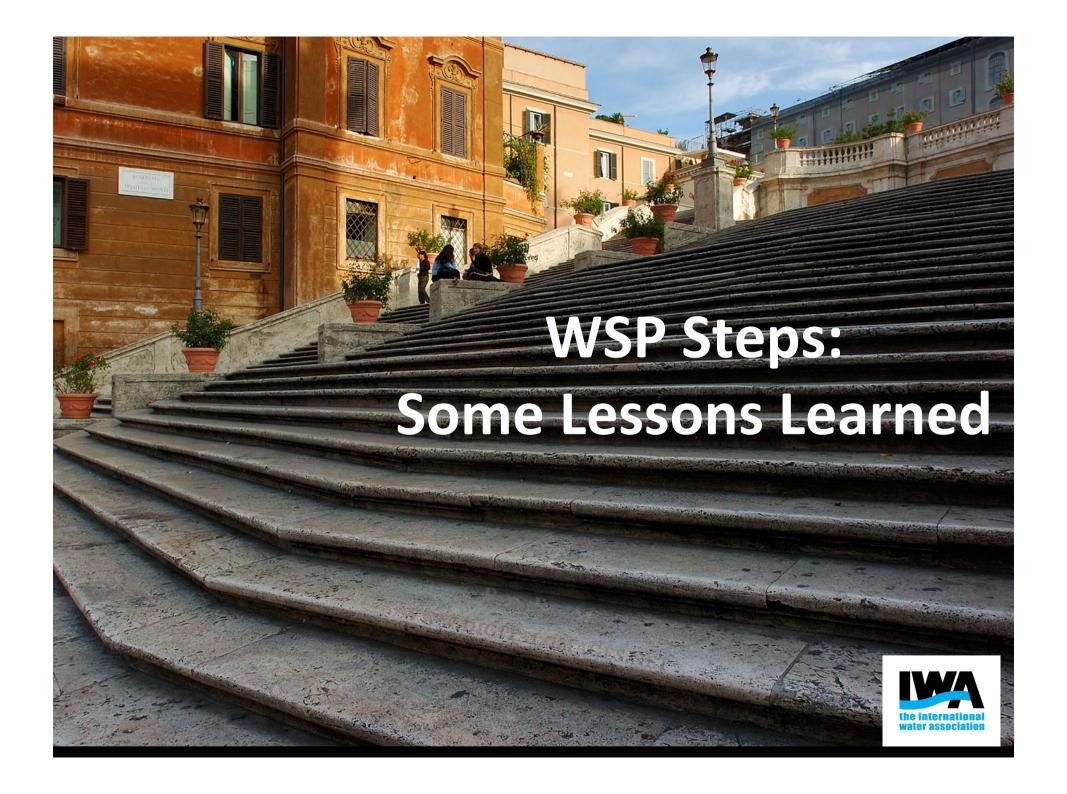












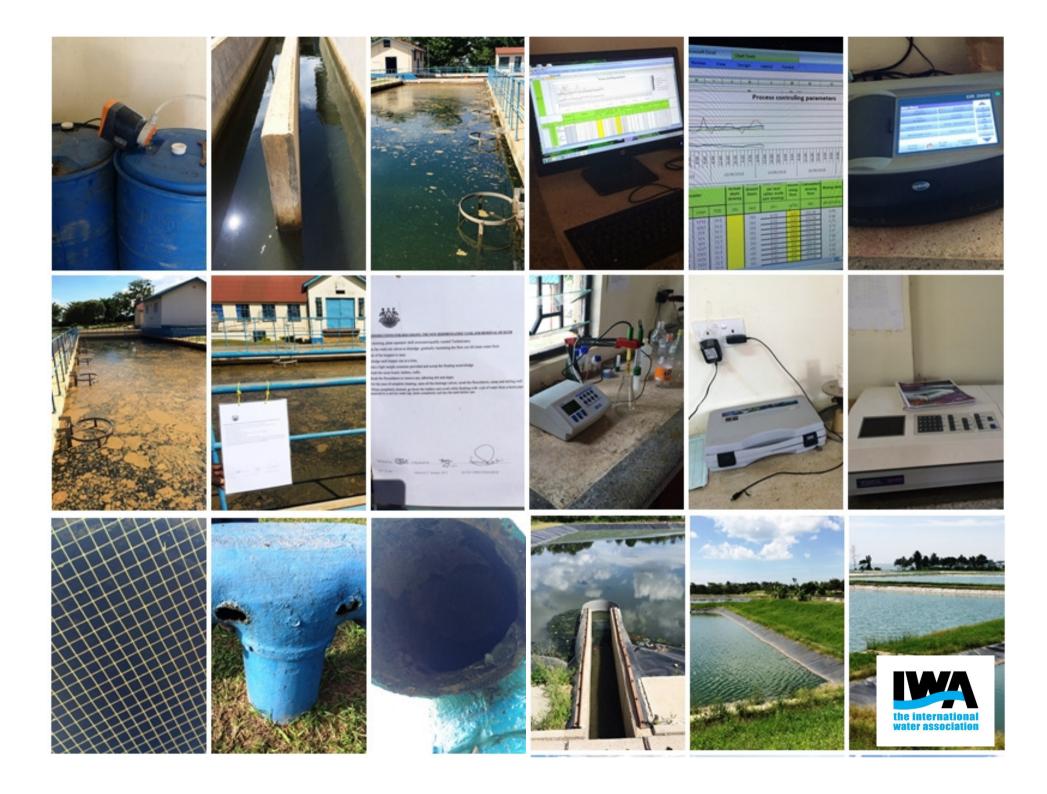
WSP Team

- WSP Meetings
 - Must be held regardless of stakeholders
 - Separate internal WSP team meeting
 - Monthly/quarterly basis
 - Discuss and track task/action progress
 - Summary of progress to management
- WSP Stakeholders
 - Stakeholder participation generally poor
 - Every 6 months/once per year
 - Present status update of progress
 - Stakeholders also provide feedback



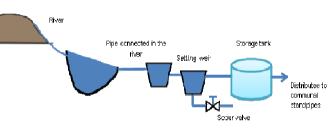






System Description

- Flow diagrams
 - Symbol chart
- **DWQ** standards
 - Specific limits for **ALL** parameters of country specific DWQ
- Standard
- Maps
 - Consider inclusion of aerial maps of water treatment system (e.g. utilising GIS or Google)







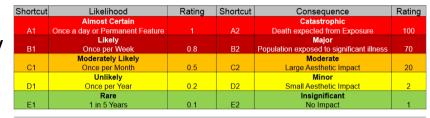
Closed

Hazard Identification and Risk Assessment

- Risk assessment methodology
 - Specify risk matrix/methodology
- Keep a photo diary
- Separate WSPs
 - 1 WSP per supply system
- Control measures vs. corrective actions
 - Clear separation between what exists and what is required







Risk Rating	Range
Low	0-10
Medium	11-56
High	57-100

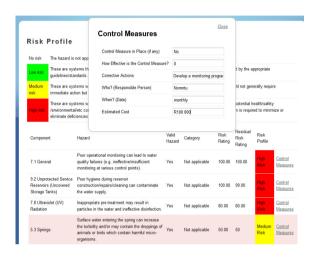




Improvement Plan

- "Very high" and "high" risks must be prioritised in improvement plan
- Corrective actions costs and funding source (i.e. commitment) must be clearly stipulated
- Must track task/action completion as per suggested WSP team meetings
- Conduct risk re-assessment (if corrective actions are implemented)

Summary Status and Ranking										
Component	Hazard		Control Measure	Control Measure Effectiveness (%)?		Residual Risk Profile		Who? (Responsible Person)	When? (Date)	Estimated Cost?
					_					
Source	Livestock, human activity at water source.	Low Risk	0	80%	0.2	Low Risk	New fence	P Smit	2010/12/01	R 10 000
	Raw water turbid after heavy rain. May contain		Effective monitoring							
Source	droppings of animals and birds.	No Risk	& treatment	0%	0	No Risk	Not required	-	-	-
		Medium								
Source	Dead animals.	Risk	0	50%	8	Low Risk	0	0	1900/01/00	R 0
	Droppings of animals/birds can introduce					Medium				
Source	harmful micro-organisms into the water body.	High Risk	0	30%	56	Risk	0	0	1900/01/00	R 0







Operational Monitoring

- Visual inspections
 - Keep records of visual inspections / checklists / logbooks and ensure signed and dated
- **Operational DWQ** monitoring
 - Data must be used to track performance (e.g. graphs at management meetings)

Job No. 67: Emanti Management - Field Assessment Report DWQM: Stellenbosch Municipality On-site Observations for Water Services Action Plan

Date:	25 August 2011	
	The state of the s	THE LOUISI





Report compiled by:	Greg Bailey
Issues:	Covermust be replaced because rust of the cover is falling into the reservoir. Rusted cover is also a safety hazard.
Responsible person:	
Comments/Plan/Preli	minary actions by responsible person:
Target date:	

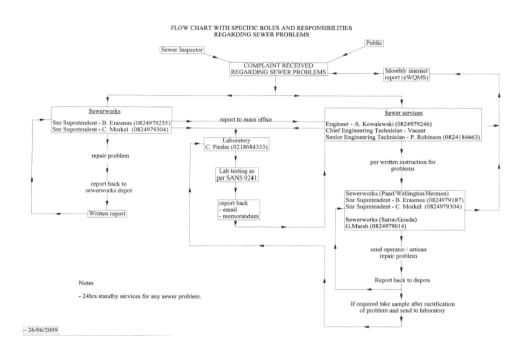






Verification

- Incident Management Protocol or alert levels
- Risk-based monitoring
- Laboratory proficiency testing
- WW quality are you polluting your own resource?
- WSP Internal Audit
 - At least one per year
 - Audit particular aspects / steps
- → Are we spending our money wisely?







Management Procedures

- Need to set or improve Standard
 Operating Procedures
- WSP team generate outputs for the SOPs and evaluate the effectiveness of the defined corrective actions











Supporting Programmes

- ISO certification (QMS ISO 9001:2008)
- Develop plans and approve budgets → i.e. implement/make a reality
- Keep records
- Buy-in and commitment throughout the utility (ALL departments) is essential for long-term WSP sustainability







Review and Revision

- Don't be shy to use your WSP → tick tasks completed, change dates, etc.
- Date on cover page
- Include WSP team photo
- Sign-off by Top Management commitment and funding to fix!!
- Must have a plan/timeline for WSP update/revision



MUNICIPAL LOGO

COMMITTMENT TO SERVICE DELIVERY- XYZ WATER SUPPLY SYSTEM

The ABC Municipality has undertaken to provide for the rendering of water services in an efficient, equitable, cost effective and sustainable manner.

To this end and with guidance from relevant legislation and bylaws, mechanisms have been put into place to ensure the above rendering of services is successfully and sustainably implemented.

Therefore the management of ABC Municipality are aware and committed to the drafting and practical implementation of the control measures highlighted within this report.

SIGNED at	on this the	day of	2012
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Mr/Ms Municipal Manager

Mr/Ms

Deputy Municipal Manager Infrastructure and Technical Services





WSP Audit Comments

"We had asked for these changes before but nothing was forthcoming. WSP changed that."

"The biggest room is the room for improvement!"

"As Internal Audit, we had previously not prioritised WSP. Now that we have seen that WSP is not a standalone exercise, but integral to our functions, we will be scheduling internal audits..."

"The WSP audit has helped us with mobilising our stakeholders. Hopefully it will now be easier getting them involved in future WSP events."

"Many of our water treatment plant improvements would not have happened if it wasn't for WSP."



WSP Audit Summarised Results

Accessore to the AMCD alamant	Max Points	Α	Max Score		
Assessment area / WSP element	Possible	Α	В	С	from 3 Assessments
1. WSP TEAM	20	7	16	11	16
2. SYSTEM DESCRIPTION	20	16	14	10	16
3. HAZARD ID & RISK ASSESSMENT	25	20	20	17	20
4. IMPROVEMENT PLAN	15	11	10	8	11
5. OPERATIONAL MONITORING	10	7	6	7	7
6. VERIFICATION	25	22	19	14	22
7. MANAGEMENT PROCEDURES	15	10	9	8	10
8. SUPPORTING PROGRAMMES	10	7	7	7	7
9. REVIEW AND REVISION	10	5	5	7	7
GRAND TOTAL SCORE:	150	105	10 6	89	116
		70%	71%	59%	77%
		Average	Average	Below Average	Good

Total score

> 95%	> 85% - 95%	> 75% - 85%	> 65% - 75%	> 50% - 65%	≤ 50%
Excellent	Very good	Good	Average	Below	Priority attention
LACEHEIIC	very good	dood	Average	average	needed
143 – 150	128 – 142	113 – 127	98 – 112	76 – 97	≤ 75



Conclusions (1)

- Tools and resources are available!!
 - → Help identify and understand issues **SO** WHAT??
 - → Develop a plan Plan means nothing without ACTION!
- Start small/basic less is more entrench participation, and then expand...
- Commit make it part of your day-to-day activities...
- Find those who know peers, specialists

 learn from them, take advice, and don't waste time reinventing wheels or falling into traps....







Conclusions (2)

- WSP can improve knowledge, understanding, empowerment and accountability
- Don't limit your scope!
 - Not just water quality IAM, safety, etc.
 - "Soft" issues NB (e.g. staff mentoring)
- Need trust, communication, commitment & capacity

 turn plans, data and intelligence into ACTIONS!
- Audit
 - Be prepared!
 - Don't tell...SHOW!











We want you to continue improving!

Let's enjoy the journey together!